

Laminitis

What is laminitis?



Laminitis is a very common cause of lameness in horses and ponies. Laminae are the structures which attach the pedal bone to the inside of the hoof wall, if these laminae become inflamed or damaged they can cause severe pain and distress. Laminitis can occur in all shapes and sizes of horses and ponies, although it is more commonly seen in small, overweight native ponies. It used to be more common to see laminitis in the spring and late summer due to the presence of lush pasture but we are now seeing cases of laminitis throughout the year. Although laminitis usually affects both front feet, it can effect the hind feet or rarely just one foot.

Causes of laminitis

Although extensive research has been carried out, we still do not know the exact cause of laminitis. We do, however, know of several predisposing factors which increase the chance of a pony becoming laminitic. All of these factors can potentially alter the flow of blood through the laminae causing damage and ultimately laminitis; this damage may be occurring very slowly without causing any signs of lameness, it often takes a trigger such as stress to push these ponies with underlying laminitis into an acute episode of clinical laminitis.

These predisposing factors include:



Obesity - This is the most important and most commonly seen factor, little feet are not designed to carry big fat ponies! Obesity also causes alterations in the horse's metabolism and can lead to equine metabolic syndrome.

Lush pasture – sugars found in lush pasture known as fructans have been shown to cause release of toxins from the gut, these toxins can cause restriction of blood flow to the laminae. These gut toxins can also be released following ingestion of excessive amounts of carbohydrate ie after breaking into the feed room

Equine metabolic syndrome (EMS) – this condition is similar to type 2 diabetes in humans and is also referred to as peripheral insulin resistance. It is thought to be caused by an overly rich diet and a lack of exercise, ponies that are fat at a young age are more likely to develop EMS as they get older

PPID (commonly known as Equine Cushings disease) – Cushings is a very common condition seen in elderly horses and ponies, it is caused by a benign tumour which leads to the release of excess natural steroid called cortisol. Symptoms include long curly coat, increased drinking, increased appetite, excessive sweating and persistent laminitis

Stress – during times of stress, the body makes increased amounts of cortisol. In ponies with other predisposing factors, this cortisol release can trigger laminitis

Concussion – working horses on hard ground, turning out on frozen ground and recent farriery can lead to bruising and ultimately laminitis

Infections – some bacterial infections can result in the release of toxins which can cause restriction of blood flow to the laminae, ie retained placenta following foaling leading to a uterine infection commonly results in laminitis

Severe lameness of opposite leg – a severe lameness ie fracture of one leg results in excessive weight bearing of the sound leg and potentially overloading of the laminae

Steroids – administration of steroid medication by a veterinary surgeon ie for allergic reactions or for arthritis, can very rarely trigger an acute episode of laminitis in horses already suffering from underlying laminitis

Clinical signs and diagnosis

Laminitis can vary in severity from a slightly shortened stride length to lying down unable to stand.



Common symptoms include: shifting weight from foot to foot, stilted or 'pottery' gait, reluctance to walk, leaning back on heels, increased strength of pulse to feet, increased breathing rate and sweating. Severe cases may be reluctant to move and spend long periods lying down.

Laminitis is an EMERGENCY, contact your vet immediately if you suspect your horse has laminitis.

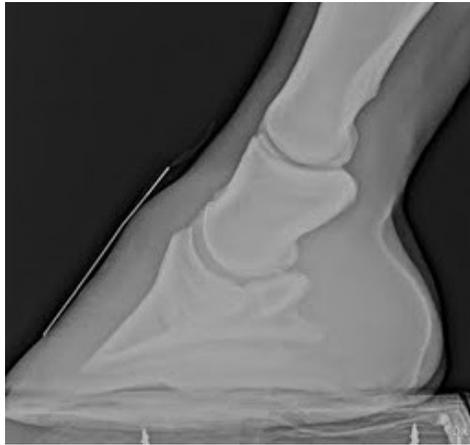
It is usually possible to diagnose laminitis from these signs, your vet will also use hoof testers to check for increased sensitivity around the toe area of the sole. In horses suffering from chronic (long term) laminitis there are often changes in the hoof conformation such as rings in the hoof wall, long heels, convex (bulging) soles and depressions at the coronary band. Sometimes laminitis can be confused with other conditions such as colic (if the horse is lying down) or a foot abscess (if only one foot is affected). To confirm the diagnosis and to aid treatment radiographs (x-rays) are often necessary.

Treatment

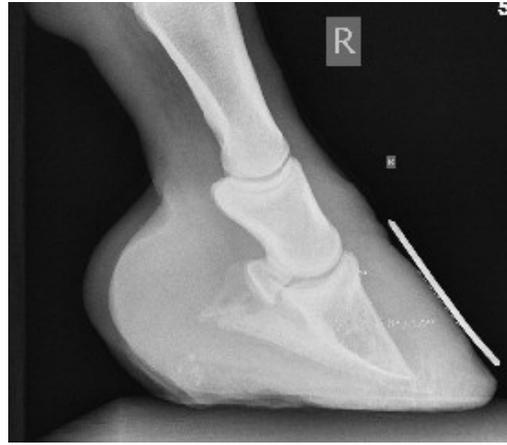
Box rest is the most important treatment for laminitis, regardless of the initial cause. As laminitis is an extremely painful condition painkillers such as Equipalazone (bute) will be prescribed. Your vet may also prescribe ACP, a mild sedative, this acts to increase the blood flow to the laminae. Depending on the severity of the laminitis and the conformation of the horse's feet it may be appropriate to remove the shoes and apply frog supports. If possible the horse should be bedded on a deep bed of shavings, ensuring the bedding goes right up to the door.

If the pony is overweight a strict diet should be instigated, initially feeding roughly 1% of body weight per day, for the average pony this will work out at 3-5kg food per day, ask your vet if you are unsure of your ponies weight. Total starvation must be avoided as this can lead to a serious condition called hyperlipaemia. It is best to actually weigh your hay nets so you are sure of how much you are feeding, soaking hay for 12 hours helps to leach out the sugars. It is also possible to feed straw although too much can cause impaction colic, a few handfuls added in to hay nets is adequate. It is also important to ensure adequate vitamin and mineral content, this can be achieved by feeding small amount of alfalfa chop, un-molassed sugar beet or specific laminitic approved diets such as Happy Hoof. Try to feed little and often to avoid long periods with no food, using one hay net inside another will slow down the rate the hay is eaten and help to relieve boredom.

Underlying conditions such as Cushings and EMS can be diagnosed using blood tests and treated appropriately. The current treatment for equine Cushings is a tablet called pergolide (marketed as Pascend).



Normal



Laminitic

In cases that are not improving or are having recurrent bouts of laminitis remedial farriery is often required, this requires radiographs to assess whether there has been any movement of the pedal bone within the hoof. The pedal bone can both sink and rotate within the hoof capsule, in extreme cases the pedal bone will sink until it protrudes through the sole of the foot; this is referred to as founder and requires immediate euthanasia. Depending on the severity of the changes seen on the radiographs the horse is usually then shod in either metal 'heart bar' shoes or plastic glue on 'imprint' shoes.

For most cases of laminitis, even mild ones, at least one month of box rest is recommended. Return to exercise too early often leads to repeated bouts of laminitis. More severe cases can require several months of complete box rest and may never return to complete soundness. Despite our best efforts roughly 1 in 5 laminitics we treat require to be euthanased.

Prevention

Laminitis is a source of considerable pain and distress and can often mark the end of a horse's athletic career, if not their life. Thankfully there are many things you can do to reduce the risk of your horse becoming laminitic. The most important of these is weight management. We appreciate how difficult it is to keep weight off some horses, but there are many simple ways to reduce the amount of energy going in and increase the energy going out. Most horses in the UK are overweight and body shape varies hugely between breeds so it can be difficult for some owners to gauge whether their horse is overweight, if you are unsure please ask your vet. Weigh tapes are great for monitoring changes in weight.

It is important to remember that a **normal** horse's weight will fluctuate throughout the year, they will be heavier in the summer and lighter in the winter. This is natural and should be encouraged! So it is ok if in the late summer your horse has put on a few pounds as long as they are slightly underweight by the

following spring. The thinner you can get your pony over the winter, the more relaxed you can be about turnout in the spring.

As discussed earlier, very overweight horses should be fed around 1% of their body weight per day. To maintain weight, a diet of around 3-5% of body weight is required, this varies depending on the level of exercise. Diets should mainly consist of fibre, this includes hay or haylage and grass, and have minimal carbohydrate (hard feeds). It is best to weigh feeds, including hay nets, to ensure you are feeding the correct amount.



Exercise is obviously not appropriate for horses suffering from laminitis but it is essential in healthy horses to burn calories and help maintain weight. Grazing is a natural form of exercise but care must be taken to minimise grass intake, this can be achieved using a grazing muzzle. Grazing muzzles are fantastic because they allow the wearer to eat the longer strands of grass which are coarser and contain fewer sugars. Other ways of maximising energy output include using fewer rugs, burning food to keep warm means less will be stored as fat.

Pasture management is becoming increasingly important in the prevention of laminitis. Many common grass seed mixes contain grasses intended for cattle which are far too high in sugars for horses. It is also common for farmers to fertilise grazing which again increases the amount of sugar in the grass. If possible fields should be seeded with grass mixes specifically designed for horses and the use of fertilisers should be kept to a minimum.

Remember, prevention is better than cure, and there is no cure for laminitis. Once a horse has suffered from laminitis, it will be more prone to it for the rest of its life!

